

## PATENT COOPERATION TREATY

PCT

REC'D 07 JAN 2002

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2847-55882	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/24787	International filing date (day/month/year) 08 September 2000 (08.09.2000)	Priority date (day/month/year) 08 September 1999 (08.09.1999)
International Patent Classification (IPC) or national classification and IPC IPC(7): C12P 21/06, 9/16, 9/48 and US Cl.: 435/69.1, 212, 196		
Applicant UNIVERSITY OF VICTORIA INNOVATION AND DEVELOPMENT		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>0</u> sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input checked="" type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 26 March 2001 (26.03.2001)	Date of completion of this report 12 December 2001 (12.12.2001)	
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer <i>[Signature]</i> Diana M. Ramirez Telephone No. (703) 308-0196	

**I. Basis of the report**1. With regard to the **elements** of the international application: \*

- ☒ the international application as originally filed.
- ☒ the description:  
pages 1-55 as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.
- ☒ the claims:  
pages 56-62, as originally filed  
pages NONE, as amended (together with any statement) under Article 19  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.
- ☒ the drawings:  
pages 1-14, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.
- ☐ the sequence listing part of the description:  
pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims 1-8, 15-21, 24-28, 32-33	YES
	Claims 9-14, 22-23, 29-31	NO
Inventive Step (IS)	Claims NONE	YES
	Claims 1-33	NO
Industrial Applicability (IA)	Claims 1-33	YES
	Claims NONE	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-8 and 24-27 lack an inventive step under PCT Article 33(3) as being obvious over Gugi et al. Gugi et al. teach a method of producing recombinant acid phosphatase by culturing *P. fluorescens* transformed with a plasmid encoding a heterologous enzyme at 30 degrees, a temperature which inactivates the *P. fluorescens* phosphatase and is an optimal growth temperature for the bacterium. Gugi et al. do not teach isolating the expressed heterologous enzyme or expressing other proteins. It would have been obvious to one of ordinary skill in the art to recombinantly express proteins in *P. fluorescens* for the benefit of heterologously producing proteins at an optimal growth temperature. One of ordinary skill in the art would have a reasonable expectation of success at doing this as the teachings of Gugi et al. show the heterologous expression of phosphatases at 30 degrees. Therefore the invention would have been prima facie obvious to one of ordinary skill in the art at the time of the invention.

Claims 9-14, 22, 23, and 29-31 lack novelty under PCT Article 33(2) as being anticipated by Ihms et al. (U.S. Patent No. 5,861,366). U.S. Patent No. 5,861,366 teaches a method for removing a protein from surfaces containing protein by treatment with proteases, denaturing the protease by heating to 60 degrees and removing the protease with detergent.

Claims 15-21 and 28-33 lack an inventive step under PCT Article 33(3) as being obvious over Rojo et al. Rojo et al. teach an RNase that is inactivated by heating at 60 degrees. Rojo et al. do not teach a method of degrading RNA with said RNases and inactivating by heating. It would have been obvious to one of ordinary skill in the art to remove RNA from a sample by treating with an RNase as taught by Rojo et al. and heat inactivating the RNase. One of ordinary skill in the art is motivated to do this as methods of removing RNA by treating with RNase and heat inactivating the RNase are well known in the art. Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill at the time of the invention.

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Claims 28-33 are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof:  
claims 28-33 do not refer to multiple claims in the alternative.

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 13 July 2001 (13.07.01)	
<b>International application No.</b> PCT/US00/24787	<b>Applicant's or agent's file reference</b> 2847-55882
<b>International filing date</b> (day/month/year) 08 September 2000 (08.09.00)	<b>Priority date</b> (day/month/year) 08 September 1999 (08.09.99)
<b>Applicant</b> NANO, Francis, E.	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

26 March 2001 (26.03.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	Authorized officer H. Zhou  Telephone No.: (41-22) 338.83.38
---	---

# PATENT COOPERATION TREATY

SLR

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
PAULA A. DEGRANDIS  
KLARQUIST, SPARKMAN, CAMPBELL, LEIGH &  
WHINSTON, LLP; ONE WORLD TRADE CENTER  
121 SW SALMON STREET, SUITE 1600  
PORTLAND, OR 97204

## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing  
(day/month/year) **02 JAN 2002**

Applicant's or agent's file reference

2847-55882

#### IMPORTANT NOTIFICATION

International application No.

PCT/US00/24787

International filing date (day/month/year)

08 September 2000 (08.09.2000)

Priority date (day/month/year)

08 September 1999 (08.09.1999)

Applicant

UNIVERSITY OF VICTORIA INNOVATION AND DEVELOPMENT

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

Commissioner of Patents and Trademarks

Box PCT

Washington, D.C. 20231

Facsimile No. (703)305-3230

Form PCT/IPEA/416 (July 1992)

Authorized officer

*Jaime Bridges*  
Dulce M. Ramirez

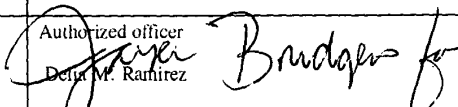
Telephone No. (703) 308-0196

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2847-55882	<b>FOR FURTHER ACTION</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US00/24787	International filing date (day/month/year) 08 September 2000 (08.09.2000)	Priority date (day/month/year) 08 September 1999 (08.09.1999)	
International Patent Classification (IPC) or national classification and IPC IPC(7): C12P 21/06, 9/16, 9/48 and US Cl.: 435/69.1, 212, 196			
Applicant UNIVERSITY OF VICTORIA INNOVATION AND DEVELOPMENT			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>0</u> sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand 26 March 2001 (26.03.2001)		Date of completion of this report 12 December 2001 (12.12.2001)	
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20251 Facsimile No. (703)305-3230		Authorized officer  Daniel M. Ramirez Telephone No. (703) 308-0196	

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/US00/

**I. Basis of the report**1. With regard to the **elements** of the international application:\*

- ☒ the international application as originally filed.
- ☒ the description:  
pages 1-55 \_\_\_\_\_ as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims:  
pages 56-62 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the drawings:  
pages 1-14 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the sequence listing part of the description:  
pages NONE \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.  
PCT/US00/**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims 1-8, 15-21, 24-28, 32-33	YES
	Claims 9-14, 22-23, 29-31	NO
Inventive Step (IS)	Claims NONE	YES
	Claims 1-33	NO
Industrial Applicability (IA)	Claims 1-33	YES
	Claims NONE	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-8 and 24-27 lack an inventive step under PCT Article 33(3) as being obvious over Gugi et al. Gugi et al. teach a method of producing recombinant acid phosphatase by culturing *P. fluorescens* transformed with a plasmid encoding a heterologous enzyme at 30 degrees, a temperature which inactivates the *P. fluorescens* phosphatase and is an optimal growth temperature for the bacterium. Gugi et al. do not teach isolating the expressed heterologous enzyme or expressing other proteins. It would have been obvious to one of ordinary skill in the art to recombinantly express proteins in *P. fluorescens* for the benefit of heterologously producing proteins at an optimal growth temperature. One of ordinary skill in the art would have a reasonable expectation of success at doing this as the teachings of Gugi et al. show the heterologous expression of phosphatases at 30 degrees. Therefore the invention would have been prima facie obvious to one of ordinary skill in the art at the time of the invention.

Claims 9-14, 22, 23, and 29-31 lack novelty under PCT Article 33(2) as being anticipated by Ihms et al. (U.S. Patent No. 5,861,366). U.S. Patent No. 5,861,366 teaches a method for removing a protein from surfaces containing protein by treatment with proteases, denaturing the protease by heating to 60 degrees and removing the protease with detergent.

Claims 15-21 and 28-33 lack an inventive step under PCT Article 33(3) as being obvious over Rojo et al. Rojo et al. teach an RNase that is inactivated by heating at 60 degrees. Rojo et al. do not teach a method of degrading RNA with said RNases and inactivating by heating. It would have been obvious to one of ordinary skill in the art to remove RNA from a sample by treating with an RNase as taught by Rojo et al. and heat inactivating the RNase. One of ordinary skill in the art is motivated to do this as methods of removing RNA by treating with RNase and heat inactivating the RNase are well known in the art. Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill at the time of the invention.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/US00/24787

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Claims 28-33 are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof: claims 28-33 do not refer to multiple claims in the alternative.

U of Vic/SLR

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

### WRITTEN OPINION

(PCT Rule 66)

<b>To:</b> PAULA DEGRANDIS KLARQUIST, SPARKMAN, CAMPBELL, LEIGH & WHINSTON, LLP ONE WORLD TRADE CENTER, SUITE 1600 121 SW SALMON STREET PORTLAND, OREGON 97204			Date of Mailing (day/month/year) <b>06 AUG 2001</b>	
<b>Applicant's or agent's file reference</b> 2847-55882			<b>REPLY DUE</b> within <b>TWO</b> months from the above date of mailing	
<b>International application No.</b> PCT/US00/24787	<b>International filing date (day/month/year)</b> 08 SEPTEMBER 2000	<b>Priority date (day/month/year)</b> 08 SEPTEMBER 1999		
<b>International Patent Classification (IPC) or both national classification and IPC</b> IPC(7): C12P 21/06, 9/16, 9/48 and US Cl.: 435/69.1, 212, 196			<b>DOCKETED FOR</b> 10/6/01	
<b>Applicant</b> UNIVERSITY OF VICTORIA INNOVATION & DEVELOPMENT CORPORATION			COMPUTER _____ CARD _____ BOOK _____ DRAWER _____ <b>ANN. SVE</b> _____	

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For an additional opportunity to submit amendments, see Rule 66.4.  
 For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
 For an informal communication with the examiner, see Rule 66.6.

**If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 08 JANUARY 2002

Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  PETER TUNG
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0196

**I. Basis of the opinion**

1. With regard to the **elements** of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
 pages 1-55, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
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 pages 56-62, as originally filed  
 pages NONE, as amended (together with any statement) under Article 19  
 pages NONE, filed with the demand  
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- ☒ the drawings:  
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 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the sequence listing part of the description:  
 pages NONE, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
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4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
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5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".

WRITTEN OPINION

International application  
No. PCT/US00/24787

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

**TIME LIMIT:**

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the Preliminary Examination Report.

**V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):**

----- NEW CITATIONS -----  
NONE

WRITTEN OPINION

International application No.  
PCT/US00/24787

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. statement**

Novelty (N)	Claims 1-8, 15-21, 24-28, 32, 33	YES
	Claims 9-14, 22, 23, 29-31	NO
Inventive Step (IS)	Claims NONE	YES
	Claims 1-33	NO
Industrial Applicability (IA)	Claims 1-33	YES
	Claims NONE	NO

**2. citations and explanations**

Claims 1-8 and 24-27 lack an inventive step under PCT Article 33(3) as being obvious over Gugi et al. Gugi et al. teach a method of producing recombinant acid phosphatase by culturing *P. fluorescens* transformed with a plasmid encoding a heterologous enzyme at 30 degrees, a temperature which inactivates the *P. fluorescens* phosphatase and is an optimal growth temperature for the bacterium. Gugi et al. do not teach isolating the expressed heterologous enzyme or expressing other proteins. It would have been obvious to one of ordinary skill in the art to recombinantly express proteins in *P. fluorescens* for the benefit of heterologously producing proteins at an optimal growth temperature. One of ordinary skill in the art would have a reasonable expectation of success at doing this as the teachings of Gugi et al. show the heterologous expression of phosphatases at 30 degrees. Therefore the invention would have been prima facie obvious to one of ordinary skill in the art at the time of the invention.

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(Continued on Supplemental Sheet.)

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

To: PAULA DEGRANDIS  
KLARQUIST, SPARKMAN, CAMPBELL, LEIGH &  
WHINSTON, LLP  
ONE WORLD TRADE CENTER, SUITE 1800  
121 SW SALMON STREET  
PORTLAND, OREGON 97204

Date of Mailing  
(day/month/year)

26 JAN 2001

Applicant's or agent's file reference  
2847-55882

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.  
PCT/US00/24787

International filing date  
(day/month/year)  
08 SEPTEMBER 2000

Applicant  
UNIVERSITY OF VICTORIA INNOVATION & DEVELOPMENT CORPORATION

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (+1-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Authorized officer  
PETER TUNG

Facsimile No. (703) 305-3230

Telephone No. (703) 308-0196

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2847-55882	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US00/24787	International filing date (day/month/year) 08 SEPTEMBER 2000	(Earliest) Priority Date (day/month/year) 08 SEPTEMBER 1999
Applicant UNIVERSITY OF VICTORIA INNOVATION & DEVELOPMENT CORPORATION		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 25.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

## INTERNATIONAL SEARCH REPORT

International application No.

US00/24787

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C12P 21/06; C12N 9/16, 9/48

US CL : 435/69.1, 212, 196

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/69.1, 212, 196

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, MEDLINE, CAPLUS, BIOSIS, EMBASE

search terms: francis nano, psychrotrophic, protease, nuclease, temperature sensitive, heat inactivation

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GUGI, B. et al. Effect of Growth Temperature on Several Exported Enzyme Activities in the Psychrotrophic Bacterium <i>Pseudomonas fluorescens</i> . J. Bacteriol. June 1991, Vol. 173, No. 12, pages 3814-3820, see entire document.	1-8, 24-27
Y	US 5,861,366 A (IHNS et al.) 19 January 1999, col. 11, lines 6-28	9-14, 22, 23, 29-31
Y	ROJO, M. et al. Cusativin, a new cytidine-specific ribonuclease accumulated in seeds of <i>Cucumis sativus</i> L. Planta. 1994, Vol. 194, pages 328-338, see entire document.	15-21, 28-33

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" Later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"A" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

18 DECEMBER 2000

Date of mailing of the international search report

26 JAN 2001

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

PETER TUNG

Telephone No. (703) 305-0196





Creation date: 08-22-2003  
Indexing Officer: SWOLDEYSUS - SAMUEL WOLDEYSUS  
Team: OIPEBackFileIndexing  
Dossier: 10049582

Legal Date: 08-06-2002

No.	Doccode	Number of pages
1	LET.	2
2	CRFL	2

Total number of pages: 4

Remarks:

Order of re-scan issued on .....